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10/647,491	08/25/2003	Matt Person	P06603US0	2377

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EXAMINER	
TRIEU, THAI BA	

ART UNIT	PAPER NUMBER
3748	

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/647,491	Applicant(s) PERSON, MATT
	Examiner Thai-Ba Trieu	Art Unit 3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show ***"epicycloidal shape"*** (See Page 2, line 8; Page 3, line 31; and Page 4, line 27); ***"third compression axis 68"*** (See Page 6, lines 7 and 19); ***"axis 68"*** (See Page 6, line 12) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of ***"epicycloidal shape"*** (See Claims 5-6, 9, and 13); ***"a plurality of the rotary internal combustion engines being used in series along the same axis of rotation"*** (See Claims 8 and 15) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

- On Page 3, lines 26 and 28, **-- compression --** should be inserted before ***"rotors 28"*** (for consistency).

- On Page 4, lines 21 and 23, **-- combustion --** should be inserted before ***"rotors 44"*** (for consistency).

- On Page 5:

  - Lines 26-29, ***"combustion"*** before ***"chamber"*** should be replaced by **--compression--**.

  - Line 30, **-- first compression --** should be inserted before ***"axis"***.

  - Line 31, **-- second compression --** should be inserted before ***"axis"***.

Appropriate correction is required.

Claim Objections

Claims 3 and 11 are objected to because of the following informalities:

- Line 3, ***"will cause"*** should be replaced by **-- causes--.**

Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims **1-4 and 8** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims **1-4 and 7** of copending Application No. ***10/390,083, filed on 03/17/2003***. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims **1-4 and 7** of the patent "anticipate" application claims **1-4 and 8**. Accordingly, application claims **1-4 and 8** are not patentably distinct from patent claims **1-4 and 7**. Patent claims **1-4 and 7** require the following elements:

- a compression chamber;
- an ignition chamber;
- a center/separation wall;
- a shaft being concentrically disposed...;
- a first rotor;
- each rotor having a vane;
- transfer slot/port in the center wall; and

- a plurality of the rotary internal combustion engines being used in series along the same axis of rotation (See Amendment filed on January 12, 2004).

while the instant application claims **1-4 and 8** only requires elements:

- a compression chamber;
- an ignition chamber;
- a center/separation wall;
- a first rotor;
- each rotor having a vane;
- transfer slot/port in the center wall; and
- a plurality of the rotary internal combustion engines being used in series along the same axis of rotation.

Thus it is apparent that the more specific patent claims **1-4 and 7** encompasse application claims **1-4 and 8**. Following the rationale in In re Goodman cited in the preceding paragraph, where applicant has once been granted a patent containing a claim for the specific or narrower invention, applicant may not then obtain a second patent with a claim for the generic or broader invention without first submitting an appropriate terminal disclaimer. Note that since Application claims **1-4 and 8** are anticipated by Patent claims **1-4 and 7** and since anticipation is the epitome of obviousness, then Application claims **1-4 and 8** are obvious over Patent claims **1-4 and 7**.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

2. Claims **9-10, and 12** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims **8 and 11** of copending Application No. ***10/390,083, filed on 03/17/2003***. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims **8 and 11** of the patent "anticipate" application claims **9-10 and 12**. Accordingly, application claims **9-10 and 12** are not patentably distinct from patent claims **8 and 11**. Patent claims **8 and 11** require the following elements:

- a compression chamber;
- an ignition chamber;
- a center/separation wall;
- a shaft being concentrically disposed...;
- shape of the compression chamber wall;
- shape of the ignition chamber wall;
- a first rotor;
- a second rotor;
- transfer slot/port in the center wall; and

while the instant application claims **9-10 and 12** only requires elements:

- a compression chamber;
- an ignition chamber;
- a center/separation wall;
- shape of the compression chamber wall;
- shape of the ignition chamber wall;

- a first rotor;
- a second rotor;
- transfer slot/port in the center wall; and

Thus it is apparent that the more specific patent claims **8 and 11** encompasse application claims **9-10 and 12**. Following the rationale in In re Goodman cited in the preceding paragraph, where applicant has once been granted a patent containing a claim for the specific or narrower invention, applicant may not then obtain a second patent with a claim for the generic or broader invention without first submitting an appropriate terminal disclaimer. Note that since Application claims **9-10 and 12** are anticipated by Patent claims **8 and 11** and since anticipation is the epitome of obviousness, then Application claims **9-10 and 12** are obvious over Patent claims **8 and 11**.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7, 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lepine (Patent Number 3,716,033), in view of Design choice.

Lepine discloses a rotary internal combustion engine comprising:

a compression chamber (formed by 10 and 22) adapted to receive fuel and compress the fuel (See Figure 1, Column 2, lines 30-32);

an ignition chamber (formed by 12 and 24) adapted to receive compressed fuel from the compression chamber and combust the compressed fuel (See Figure 1, Column 2, lines 30-32); and

a separation wall (14) between the compression chamber (Formed by 10 and 22) and ignition chamber (Formed by 12 and 24) adapted to allow passage of compressed fuel from the compression chamber to the ignition chamber (See Figure 1 and 9);

a first rotor (22) rotatably received within the compression chamber (formed by 10 and 22) and a second rotor (24) rotatably received within the ignition chamber (Formed by 12 and 24);

wherein each rotor (22, 24) has a vane (36) slidably mounted in a radially extended slot so that rotation of the rotors will cause outer ends of the vane (36) to engage the chambers (Formed by 10 and 22; and by 12 and 24) to vary the space on opposite sides of the vane (36) when the rotors (22, 24) are rotating (Note that "each rotor has a vane", it means that each rotor contains more than one vanes);

a transfer slot (Not Numbered) in the separation wall (14) adapted to permit compressed fuel to move from the compression chamber (Formed by 10 and 22) into the ignition chamber (Formed by 12 and 24).

However, Lepine fails to disclose

a compression chamber having a first 0^0 position adapted to receive fuel and compress the fuel;

an ignition chamber having a second 0^0 position adapted to receive compressed fuel from the compression chamber and combust the compressed fuel wherein the second 0^0 position is offset in relation to the first 0^0 position between 0 and 45 degrees.

One having an ordinary skill in the rotary engine art, would have found the position wherein the compression chamber receives fuel; the position wherein the ignition chamber receives the compressed fuel; the relation between the compression chamber position and the ignition chamber position; and an epicycloidal shaped wall of the compression chamber and the ignition chamber, as a matter of design choice depending on the engine requirements. Moreover, there is nothing in the record, which establishes that the claimed pressure ratio of the compressor, presents a novel of unexpected result (See In re Kuhle, 526 F. 2d 553, 188 USPQ 7 (CCPA 1975)).

Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lepine (Patent Number 3,716,033), in view of Design choice; and further in view of Zabriskie (Patent Number 1,267,157).

The modified Lepine device discloses the invention as recited above; however, fails to disclose a plurality of the rotary internal combustion engines being used in series along the same axis rotation.

Zabriskie teaches that it is conventional in the rotary engine art, to utilize a plurality of the rotary internal combustion engines (10, 11) being used in series along the same axis rotation (29) (See Figure 1).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a plurality of the rotary internal combustion engines being used in series along the same axis rotation, as taught by Zabriskie, to improve the efficiency of the modified Lepine device, since the use thereof would have increased the power of the engine.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kim (Pub. Number US 2003/0035746 A1) discloses a cylinder structure for a rotary vane type vacuum pump having a single plate shaped vane.

- Lai (US Patent Number 6,010,322) discloses a rotational power generating device.

- Umeda (US Patent Number 4,422,419) discloses a rotary internal combustion engine having a vane movable radially of the rotor.

- Umeda (US Patent Number 4,414,938) discloses a rotary internal combustion engine having a vane movably mounted in the vane groove and constituted by two vane parts opposed to each other at the center of the vane in the radial direction thereof.

- Miles (US Patent Number 4,209,001) discloses an orbital internal combustion engine.

- Krogel (US Patent Number 1,066,506) discloses a rotary engine.

- Peylo (Pub. Number DE 36 15 102 A1) discloses a rotary internal combustion engine.

- Umeda (Patent Number JP 55032943 A) discloses an internal combustion engine having vane plates inserted in a groove of a rotor.

- Nakanishi (Patent Number JP 57173528 A) discloses an internal combustion engine having a radially slidable vane.

- Nakashi (Patent Number JP 57146091 A) discloses a rotary compressor having sliding vanes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
February 26, 2004

Thai-Ba Trieu
Patent Examiner
Art Unit 3748